इंटरनेट मानक

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IS 8842 (1978): High Speed Steel Butt-welded Single Point Planing Tools [PGD 32: Cutting tools]

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Bhartṛhari—Nītiśatakam
“Knowledge is such a treasure which cannot be stolen”

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UDC 621·912·02

IS : 8842 - 1978

Indian Standard

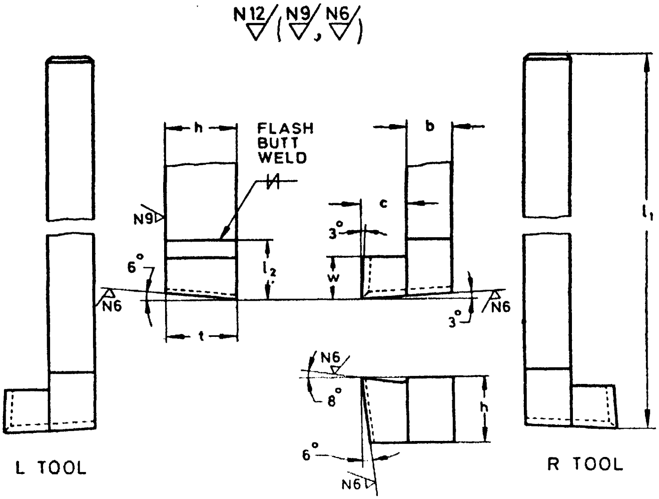
SPECIFICATION FOR
HIGH SPEED STEEL BUTT-WELDED SINGLE POINT PLANING TOOLS

Small Tools Sectional Committee, EDC 45; Single Point Cutting Tools Subcommittee, EDC 45 : 4 [Ref : Doc : EDC 45 (2411)]

1. Scope — Covers dimensions and requirements for high speed steel butt-welded single point planing tools.

2. Dimensions

2.1 *Cranked Planing Tools*



All dimensions in millimetres.

Shank			l_1 +5%	l_2 Min	t	w	c
Section	h	b					
3220	32	20	225 300	30	32	20	20
4025	40	25	240 400	45	40	25	25
5032	50	32	315 400	45	50	32	32
6340	63	40	355 400	60	63	40	40

Note — The figure is indicative of dimensions only and does not specify design features.

Designation:

A cranked planing tool having shank section 4 025, length l_1 = 240 mm, for right-hand cutting (R), and conforming to this standard shall be designated as:

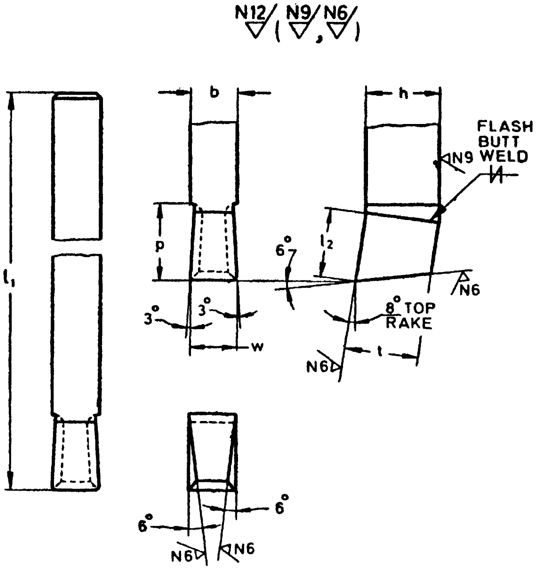
Cranked Planing Tool R 4 025 × 240 IS : 8842

Adopted 19 June 1978

© October 1978, ISI

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

2.2 *Broad Planing Tools*



All dimensions in millimetres.

Shank			l_1 + 5%	l_2 Min	t	w	p
Section	h	b					
3220	32	20	225 300	25	32	20	30
4025	40	25	240 400	30	40	25	35
5032	50	32	315 400	50	50	32	55
6340	63	40	355 400	60	63	40	65

Note — The figure is indicative of dimensions only and does not specify design features.

Designation:

A broad planing tool having shank section 4 025, length l_1 = 240 mm, and conforming to this standard shall be designated as:

Broad Planing Tool 4 025 × 240 IS : 8842.

AMENDMENT NO. 1 JANUARY 1981

TO

IS : 8842-1978 SPECIFICATION FOR HIGH SPEED STEEL BUTT-WELDED SINGLE POINT PLANING TOOLS

Alteration

(*Page* 10, *clause* **8**) — Substitute the following for the existing clause:

'**8. Protective Coating and Packing** — The tools shall be painted for rust-proofing. The cutting portion of all tools shall be protected against damage by a suitable plastic coating. The tools shall then be packed in boxes or containers for safe handling.'

(EDC 45)

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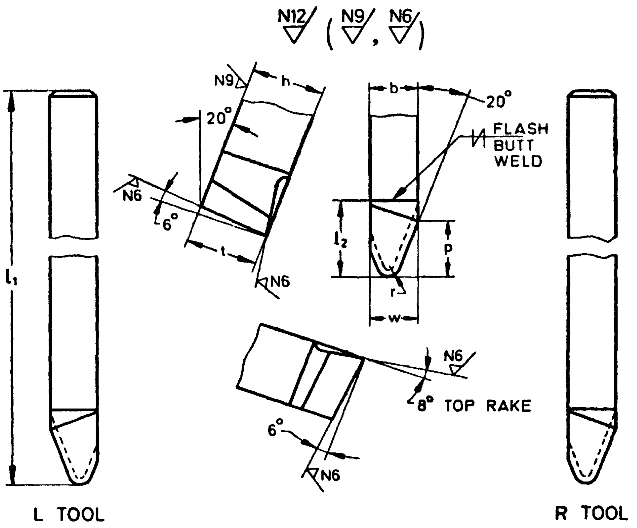
2.3 *Round Nose Planing Tools*



All dimensions in millimetres.

Shank			l_1 + 5%	l_2 Min	t	w	p	r
Section	h	b						
3220	32	20	225 300	40	32	20	30	5
4025	40	25	240 400	40	40	25	30	7
5032	50	32	315 400	55	50	32	40	8
6340	63	40	355 400	65	63	40	50	10

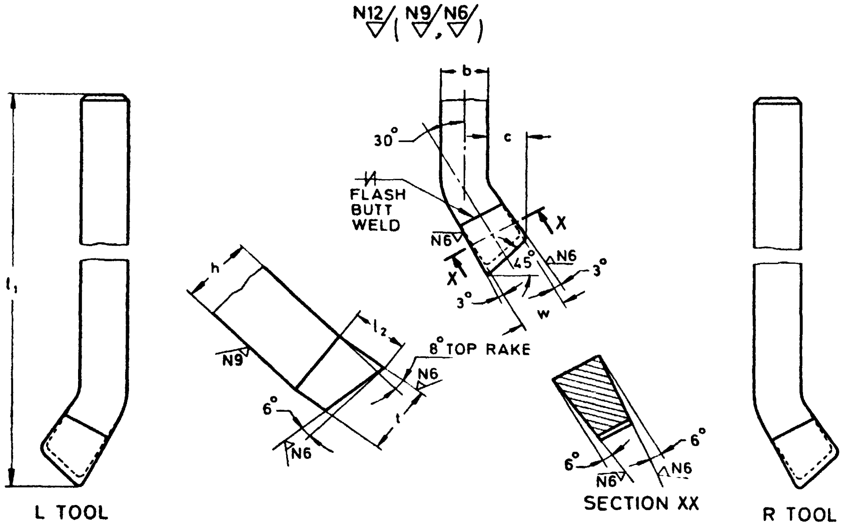
Note — The figure is indicative of dimensions only and does not specify design features.

Designation:

A round nose planing tool having shank section 4025 length, l_1 = 400 mm, for right-hand cutting (R) and conforming to this standard shall be designated as:

Round Nose Planing Tool R 4025 × 400 IS:8842.

2.4 *Offset Planing Tools*



All dimensions in millimetres.

Shank			l_1 + 5%	l_2 Min	t	w	c
Section	*h*	*b*					
3220	32	20	225 300	20	32	20	12
4025	40	25	240 400	30	40	25	20
5032	50	32	315 400	40	50	32	25
6340	63	40	355 400	50	63	40	30

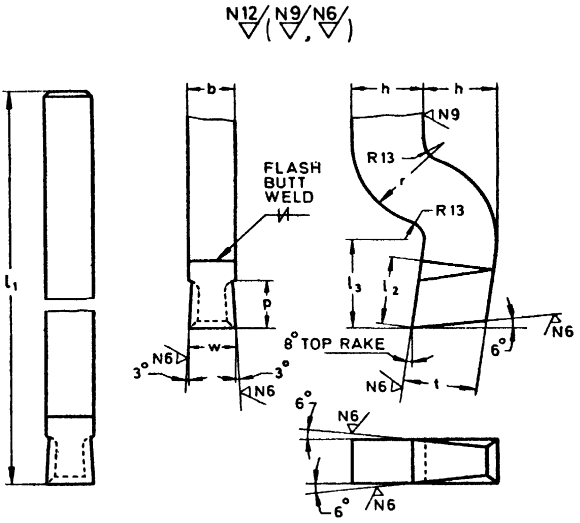
Note — The figure is indicative of dimensions only and does not specify design features.

Designation:

An offset planing tool having shank section 4025, length l_1 = 400 mm, for right-hand cutting (R), and conforming to this standard shall be designated as:

Offset Planing Tool R 4025 × 400 IS : 8842.

2.5 *Swan Necked Square Nose Planing Tools*



All dimensions in millimetres.

Shank			l_1 + 5%	l_2 *Min*	l_3	t	w	p	r
Section	*h*	*b*							
3220	32	20	225 300	40	45	32	20	35	45
4025	40	25	240 400	45	60	40	25	35	53
5032	50	32	315 400	50	65	50	32	35	63
6340	63	40	355 400	65	80	63	40	35	76

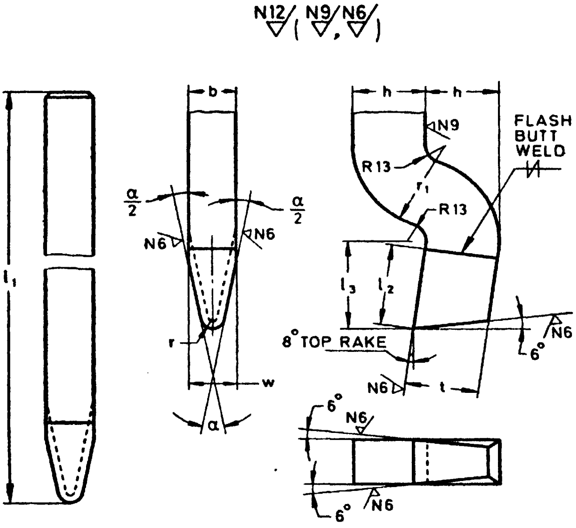
Note — The figure is indicative of dimensions only and does not specify design features.

Designation:

A swan necked square nose planing tool having shank section 4 025, length l_1 = 240 mm, and conforming to this standard shall be designated as:

Swan Necked Square Nose Planing Tool 4 025 × 240 IS : 8842.

2.6 *Swan Necked Round Nose Planing Tools*



All dimensions in millimetres.

Shank			l_1 + 5%	l_2 Min	l_3	t	w	r	r_1	α
Section	h	b								
3220	32	20	225 300	40	45	32	20	5	45	22°
4025	40	25	240 400	50	60	40	25	6	53	22°
5032	50	32	315 400	60	65	50	32	8	63	22°
6340	63	40	355 400	75	80	63	40	10	76	22°

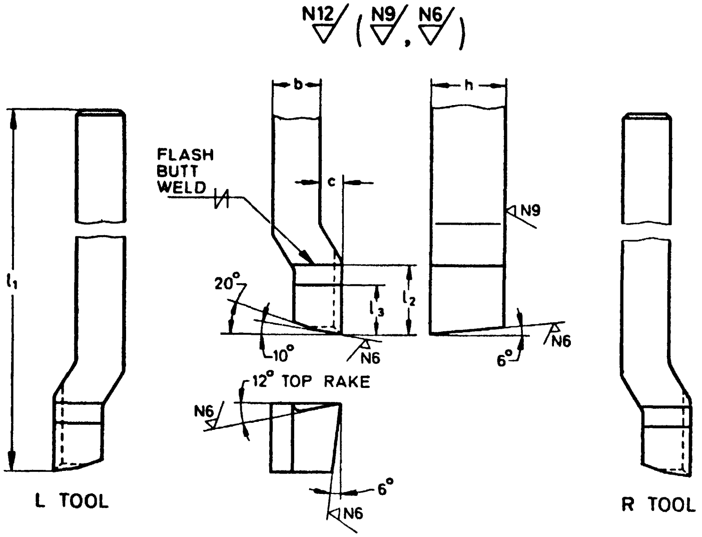
Note — The figure is indicative of dimensions only and does not specify design features.

Designation:

A swan necked round nose planing tool having shank section 4 025, length l_1 = 400 mm, and conforming to this standard shall be designated as:

Swan Necked Round Nose Planing Tool 4 025 × 400 IS : 8842.

2.7 *Side Cutting Planing Tools*



All dimensions in millimetres.

Shank			C	l_1 + 5%	l_2 *Min*	l_3 ≈
Section	*h*	*b*				
3220	32	20	10	225 300	40	25
4025	40	25	12	240 400	50	35
5032	50	32	14	315 400	50	35

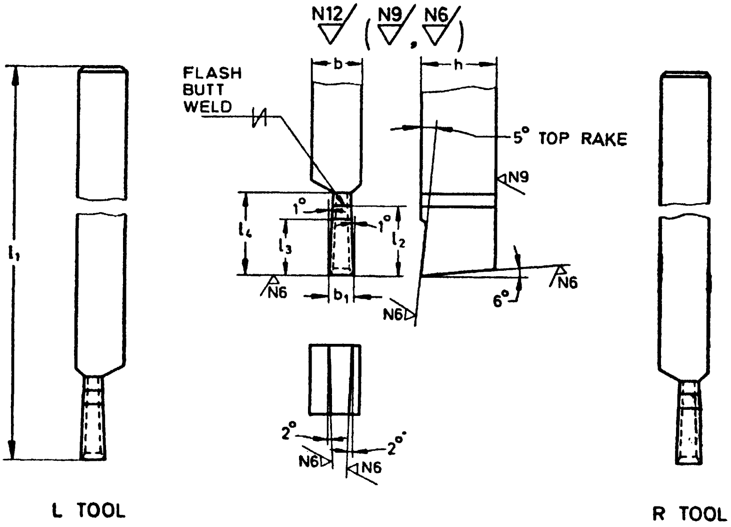
Note — The figure is indicative of dimensions only and does not specify design features.

Designation:

A side cutting planing tool having shank section 4 025, length l_1 = 240 mm, for right-hand cutting (R), and conforming to this standard shall be designated as:

Side Cutting Planing Tool R 4 025 × 240 IS : 8842.

2.8 *Groove Planing Tools*



All dimensions in millimetres.

Shank			l_1 + 5%	l_2 Min	l_3 ≈	l_4 ≈	b_1 ≈
Section	h	b					
3220	32	20	225 300	30	25	40	10
4025	40	25	240 400	40	32	50	12
5032	50	32	315 400	50	40	60	16

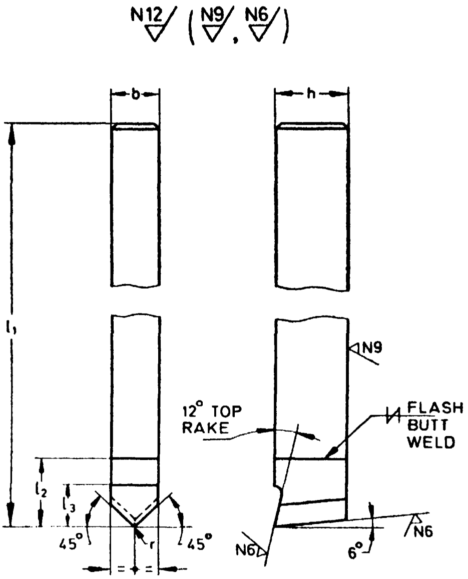
Note — The figure is indicative of dimensions only and does not specify design features.

Designation:

A groove planing tool having shank section 4 025, length l_1 = 240 mm, for right-han cutting (R), and conforming to this standard shall be designated as:

Groove Planing Tool R 4 025 × 240 IS : 8842.

2.9 *Diamond Nose Planing Tools*



All dimensions in millimetres.

Shank			l_1 + 5%	l_2 Min	l_3 ≈	r
Section	h	b				
3220	32	20	225 300	50	25	1·0
4025	40	25	240 400	50	30	1·0
5032	50	32	315 400	50	30	1·0

Note — The figure is indicative of dimensions only and does not specify design features.

Designation:

A diamond nose planing tool having section 4 025, length l_1 = 240 mm, and conforming to this standard shall be designated as:

Diamond Nose Planing Tool 4 025 × 240 IS : 8842.

3. Material

Cutting portion — High speed steel.

Shank — Carbon steel with tensile strength not less than 700 MPa* (before construction).

Note 1 — Unless otherwise specified, the high speed steel shall be of designation T83W6Mo5Cr4V2 or T72W18Cr4V1 according to IS : 7291-1974 ' High speed tool steels ' or equivalent, in which case the major constituents shall be specified by the manufacturer.

Note 2 — For meeting the above requirement the shank shall not have hardness value less than 185 *BHN* measured at one-third length away from the rear end of the tool.

4. Hardness — 760 *HV* to 830 *HV*.

4.1 For two-piece construction, the hardness shall be maintained over the length l_2.

5. General Requirements

5.1 The shank sections and designations of tool shanks shall be according to IS : 1983-1962 ' Specification for shank sections for single point turning and planing tools '.

5.2 Tolerances on dimensions with unspecified tolerances shall be according to grade extra course of IS : 2102-1969 ' Allowable deviations for dimensions without specified tolerances (*first revision*) '.

6. Workmanship and Finish — The tools shall be soundly forged to shape and shall be free from burrs, rust, seams, cracks or other manufacturing defects. The butt-welding of tools shall be sound. The tools shall be supplied well-finished, with the cutting edges and relief angles ground and ready for use.

7. Marking — To be marked on the rear left-hand side of shank with section of shank, hand of cutting (R or L) and the manufacturer's name or trade-mark.

7.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

8. Protective Coating and Packing — The tools shall be painted, covered with grease or mineral jelley for rust-proofing. The cutting portion of all tools shall be protected against damage by a suitable coating. The tools shall then be packed in boxes or containers for safe handling.

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*1 MPa = 0·1 kgf/mm^2 (approx).

Printed at New India Printing Press, Khurja, India